Notice of Allowability	Application No.	Applicant(s)	
	10/729,392	RADOSAVLJEVIC ET AL.	
	Examiner	Art Unit	
	Zeev Kitov	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *12/08/05*.

2. ☒ The allowed claim(s) is/are *1 - 34*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other *Attachment*.

DETAILED ACTION

Examiner acknowledges a submission of the arguments filed on December 08, 2005. Arguments have overcome rejections under 103(a).

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The claim numeration has been amended according to rule 1.126. Accordingly, the claim 30b was renumbered as 31 and the rest of the claims have been renumbered in a sequential order. See Attachment.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

An independent Claim 1 discloses a protective device for an electrical distribution system, which inter alia, includes following limitation: the test circuit being configured to provide a simulated fault signal to the fault detection circuit in response to a user stimulus, the test circuit being configured to drive the lock-out mechanism from an unlocked state to the lock-out state if the fault detection circuit and/or power interruption elements of the claim, including the test circuit being configured to provide a simulated fault signal to the fault detection circuit in response to a user stimulus. The closest

reference for the Claim is Germain et al., which discloses the test circuit configured to provide a simulated fault signal to the fault detection circuit in response to a user stimulus. However, its test circuit functions in a way different from the claimed invention. In the test procedure when the test fails, the test mechanism instead of driving the lock-out mechanism from an unlocked state to the lock-out state, as claimed, prevents the test mechanism from moving from initial position to a new position (col. 5, lines 20 – 24). Therefore, Germain's test mechanism has different functioning.

Another independent Claim 32 (renumbered) includes the same recited limitation.

As per independent Claim 34 (renumbered), it recites, inter alia, the test circuit being configured to open the fuse element. The closest reference for the Claim is Macbeth (US 6,621,388), which discloses similar fuse element. However, the Patent cannot be used as prior art, since it has the same inventive entity, assigned to the same assignee, filed almost concurrently, and therefore does not fit requirements of USC 102 (e).

Allowability resides, at least in part, in the above-described limitations, which has not been disclosed in the Prior Art in a search.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose telephone number is (571) 272-2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (571) 273-8300 for all communications.

Z.K.
1/9/2006

BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Attachment

Please train. Z.K. 01/09/06.

What is claimed is:

1. A protective device including a plurality of line terminals configured to be connected to an electrical distribution system and a plurality of load terminals configured to be connected to at least one load, comprising:

a fault detection circuit coupled to the plurality of line terminals and the plurality of load terminals, the fault detection circuit being configured to detect at least one fault condition;

a power interruption circuit coupled to the fault detection circuit, the power interruption circuit including a set of movable contacts configured to decouple the plurality of line terminals from the plurality of load terminals in response to the fault detection circuit detecting the at least one fault condition;

a reset mechanism coupled to the power interruption circuit and configured to actuate the movable contacts to re-couple the plurality of line terminals to the plurality of load terminals;

a lock-out mechanism coupled to the reset mechanism, the lockout mechanism being configured to disable the reset mechanism in a lock-out state; and

a test circuit coupled to the fault detection circuit and the lock-out mechanism, the test circuit being configured to provide a simulated fault signal to the fault detection circuit in response to a user stimulus, the test circuit being configured to drive the lock-out mechanism from an unlocked state to the lock-out state if the fault detection circuit and/or power interruption circuit fails to respond to the simulated fault signal within a predetermined period of time.

2. The device of claim 1, wherein the fault detection circuit includes a ground fault detection circuit.

3. The device of claim 1, wherein the fault detection circuit includes an arc fault detection circuit.

4. The device of claim 1, wherein the reset mechanism further comprises:

a reset button; and

a linkage mechanism coupled to the reset button, the linkage mechanism being configured to engage a portion of the movable contacts in a coupled state, the set of movable contacts being engaged to thereby couple the plurality of line terminals to the plurality of load terminals, the linkage mechanism also being configured to disengage the portion of the movable contacts in a decoupled state, such that the plurality of line terminals are decoupled from the plurality of load terminals.

5. The device of claim 4, wherein the reset mechanism further comprises a latch coupled to the linkage mechanism, the latch being configured to move the linkage mechanism from the coupled state to the decoupled state in response to a stimulus from the power interruption circuit.

6. The device of claim 5, wherein the latch is configured to move the linkage form the uncoupled state to the coupled state in response to a user stimulus of the reset button, when the test circuit is in the unlocked state.

7. The device of claim 5, wherein the latch cannot move the linkage from the uncoupled state to the coupled state in response to a user stimulus of the reset button, when the test circuit is in the lock-out state.

8. The device of claim 5, wherein the latch is coupled to a fuse mechanism, the fuse mechanism being closed in the unlocked state and open in the lock-out state, the fuse mechanism being configured to prevent the latch from latching the linkage mechanism when the test circuit is in the lock-out state.

9. The device of claim 5, wherein the lockout mechanism further comprises:

a spring mechanism configured to move the latch into the lock-out state; and

a fuse mechanism coupled to the spring mechanism, the fuse mechanism being configured to prevent the spring mechanism from moving the latch into the lock-out state, the fuse mechanism being configured to fail if the fault detection circuit and/or power interruption circuit fails to respond to the simulated fault signal within the predetermined period of time.

10. The device of claim 9, wherein the fuse mechanism includes a resistor soldered in a position corresponding to the unlocked state, the test circuit being configured to transmit current through the resistor when providing the simulated fault signal, the current being configured to cause the solder to fail after the predetermined period of time elapses, to thereby allow the spring mechanism to move the latch into the lock-out state.

11. The device of claim 9, wherein the fuse mechanism includes a resistor disposed in a position corresponding to the unlocked state by an adhesive, the test circuit being configured to transmit current through the resistor when providing the simulated fault signal, the current being configured to cause the adhesive to fail after the predetermined period of time elapses, to thereby allow the spring mechanism to move the latch into the lock-out state.

12. The device of claim 1, wherein the lock-out mechanism further comprises:

a spring mechanism configured to drive the reset mechanism into the lock-out state; and

a fuse mechanism coupled to the spring mechanism, the fuse mechanism being configured to prevent the spring mechanism from driving the lockout mechanism into the lock-out state, the fuse mechanism being configured to fail if the fault detection circuit and/or power

interruption circuit fails to respond to the simulated fault signal within the predetermined period of time.

13. The device of claim 12, wherein the fuse mechanism includes a resistor soldered in a position corresponding to the unlocked state, the test circuit being configured to transmit an electric current through the resistor when providing the simulated fault signal, the electric current being configured to cause the solder to fail after the predetermined period of time elapses, to thereby allow the spring mechanism to move the lockout mechanism into the lock-out state.

14. The device of claim 12, wherein the fuse mechanism includes a resistor disposed in a position corresponding to the unlocked state by an adhesive, the test circuit being configured to transmit current through the resistor when providing the simulated fault signal, the current being configured to cause the adhesive to fail after the predetermined period of time elapses, to thereby allow the spring mechanism to move the lockout mechanism into the lock-out state.

15. The device of claim 1, wherein the lock-out mechanism includes a resistor coupled to the reset mechanism by a material, the material being configured to fail when the predetermined period of time elapses to decouple the resistor from the reset mechanism, the reset mechanism being driven into the lock-out state.

16. The device of claim 15, wherein the material includes solder.

17. The device of claim 15, wherein the material includes an adhesive.

18. The device of claim 1, wherein the test circuit further comprises:

a test switch responsive to a user stimulus;

a first circuit element coupled to the test button, the first circuit element configured to generate the at least one fault condition in response to the test switch being in a closed position; and

a second circuit element coupled to the test switch, the second circuit element being configured to drive the test circuit from the unlocked state to the lock-out state if the fault detection circuit and/or the power interruption circuit fail to respond to the at least one fault condition within the predetermined time period.

19. The device of claim 18, wherein the second circuit element includes a fuse mechanism that is closed in the unlocked state and open in the lock-out state.

20. The device of claim 18, wherein the second circuit element includes a resistor coupled to the lockout mechanism by solder, the solder being configured to fail after the predetermined time elapses, decoupling the resistor from the lock-out mechanism, driving the test circuit from the unlocked state to the lock-out state.

21. The device of claim 18, wherein the first circuit element produces a differential current when the test switch is closed, the differential current simulating the at least one fault condition, the second circuit element generating substantially no differential current.

22. The device of claim 18, wherein the second circuit element includes a resistor coupled to the reset mechanism by a material, the material being configured to fail when the predetermined period of time elapses to decouple the resistor from the reset mechanism, the reset mechanism being driven into the lock-out state.

23. The device of claim 22, wherein the lock-out mechanism further comprises:

a spring mechanism configured to drive the reset mechanism into the lock-out state; and

the resistor coupled to the spring mechanism, the resistor being configured to prevent the spring mechanism from driving the lockout mechanism into the lock-out state, the resistor being configured to fail if the fault

detection circuit and/or power interruption circuit fails to respond to the simulated fault signal within the predetermined period of time.

24. The device of claim 18, wherein the second circuit element further comprises:

a first resistor coupled to the test switch;

a transistor including a base, emitter, and collector terminals, the base terminal being coupled to the first resistor; and

a second resistor coupled to the collector terminal and soldered to the lockout mechanism, the solder being configured to fail after the predetermined time elapses, decoupling the second resistor from the lock-out mechanism, driving the test circuit from the unlocked state to the lock-out state.

25. The device of claim 1, wherein the power interruption circuit includes a spring loaded mechanism configured to actuate the set of movable contacts from a coupled state to an uncoupled state.

26. The device of claim 25, wherein the reset mechanism drives the set of movable contacts from the uncoupled state to the coupled state in the unlocked state, but cannot drive the set of movable contacts from the uncoupled state to the coupled state in the lock-out state.

27. The device of claim 1, wherein the power interruption circuit includes a relay mechanism configured to actuate the set of movable contacts from a coupled state to an uncoupled state.

28. The device of claim 27, wherein the reset mechanism drives the set of movable contacts from the uncoupled state to the coupled state in the unlocked state, but cannot drive the set of movable contacts from the uncoupled state to the coupled state in the lock-out state.

29. The device of claim 1, wherein the power interruption circuit includes a bus bar mechanism configured to actuate the set of movable contacts from a coupled state to an uncoupled state.

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30. The device of claim 29, wherein the reset mechanism drives the set of movable contacts from the uncoupled state to the coupled state in the unlocked state, but cannot drive the set of movable contacts from the uncoupled state to the coupled state in the lock-out state.

31 ~~30~~. The device of claim 1, wherein the device further comprises one of a receptacle, switch, circuit breaker, module, and portable housing containing the device.

32 ~~31~~. A protective device including a plurality of line terminals configured to be connected to an electrical distribution system and a plurality of load terminals configured to be connected to at least one load, comprising:

a fault detection circuit coupled to the plurality of line terminals and the plurality of load terminals, the fault detection circuit being configured to detect at least one fault condition;

a power interruption circuit coupled to the fault detection circuit, the power interruption circuit including a set of movable contacts configured to decouple the plurality of line terminals from the plurality of load terminals in response to the fault detection circuit detecting the at least one fault condition;

a reset mechanism coupled to the power interruption circuit and configured to actuate the movable contacts to re-couple the plurality of line terminals to the plurality of load terminals;

a lock-out mechanism coupled to the reset mechanism, the lockout mechanism including a spring mechanism configured to drive the reset mechanism into a lock-out state, and a fuse element coupled to the spring mechanism to prevent the spring mechanism from moving in an unlocked state; and

a test circuit coupled to the fault detection circuit and the lock-out mechanism, the test circuit being configured to provide a simulated fault signal to the fault detection circuit, the test circuit being configured to open the fuse element to thereby drive the lock-out mechanism from the unlocked state to the lock-out state if the fault detection circuit and/or power interruption circuit fails to respond to the simulated fault signal within a predetermined period of time.

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33 ~~32~~. The device of claim 31, wherein the fuse mechanism includes a resistor.

34 ~~33~~. A protective device including a plurality of line terminals configured to be connected to an electrical distribution system and a plurality of load terminals configured to be connected to at least one load, comprising:

a fault detection circuit coupled to the plurality of line terminals and the plurality of load terminals, the fault detection circuit being configured to detect at least one fault condition;

a power interruption circuit coupled to the fault detection circuit, the power interruption circuit including a set of movable contacts configured to decouple the plurality of line terminals from the plurality of load terminals in response to the fault detection circuit detecting the at least one fault condition;

a reset mechanism coupled to the power interruption circuit and configured to actuate the movable contacts to re-couple the plurality of line terminals to the plurality of load terminals;

a lock-out mechanism coupled to the reset mechanism, the lockout mechanism being configured to disable the reset mechanism in a lock-out state; and

a test circuit including a first circuit element coupled to the fault detection circuit and a second circuit element coupled to the lock-out mechanism, the first circuit element being configured to provide a simulated fault signal to the fault detection circuit, the second circuit

element being configured to drive the lock-out mechanism from an unlocked state to the lock-out state if the fault detection circuit and/or power interruption circuit fails to respond to the simulated fault signal within a predetermined period of time.